

Agenda 2020 Recycling Task Group

Call for Preproposals

May 1, 1998

I. Background

In November 1994, the Forest Products industry and the U.S. Department of Energy (DOE) signed a compact to develop a partnership for the purpose of encouraging industry to adopt more energy-efficient practices and technologies, thereby reducing the utilization of fossil energy and omissions of greenhouse gases. The basis of this partnership is called Agenda 2020.

Subsequent to that, the American Forest & Paper Association (AF&PA) released *Agenda 2020: A Technology Vision and Research Agenda for America's Forest, Wood, and Paper Industry*. That document described in general terms the research targeted by the forest products industry to advance a sustainable future. A copy of the Agenda 2020 Principles of Execution is attached. A new document, *Agenda 2020 - The Path Forward*, to be published in July 1998, reviews our progress and outlines our future direction.

II. Call for Preproposals

We invite you to submit a two-page preproposal for research funding in FY 2000 targeting innovative work in one of the five research pathways detailed in section IV. The preproposals are due August 1, 1998. The required preproposal criteria and selection process are reviewed in the following section.

The Recycling Task Group has recently revised the research pathways (see attached). Most notable is the addition of a pathway on pressure sensitive adhesives (PSA), which has been identified as a top priority in the recycling area.

III. Preproposal Submittal and Selection Process

Researchers interested in having proposals considered for FY 2000 funding are first asked to describe their research in a two-page (single-sided) preproposal. Each preproposal should use the attached form. **Preproposals are due August 1, 1998.** Please send an original (single-sided) and one copy of the preproposal to:

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The Agenda 2020 Recycling Task Group will review preproposals in October 1998. The Task Group consists of approximately 25 technical and business managers from a broad cross-section of the paper industry. Please note that the DOE requires a **minimum 20 percent cost share**. The proposed research is also required to **estimate or demonstrate a proven energy benefit** (shown in BTUs). The Task Group will use the following criteria to select the best candidates:

Relevance to the topics identified in the target research area.
Clarity of objective.
Scientific and technical quality.
Probability of delivering the objectives on time and within the assigned resources.
Innovation.
Reasonableness of cost compared to the research objectives.
Impact on recycling.
Criticality to global competitiveness and probability of providing the U.S. a competitive edge.
Precompetitive.
Collaborative.
Thorough review of literature.
Minimum 20 percent cost share.
Demonstration of a proven energy benefit (shown in BTUs).

Selected candidates will be asked to participate in a poster presentation on **December 3, 1998 in Chicago, Illinois**. Following that, selected candidates will prepare a five-page proposal due **February 1, 1999**. The Recycling Task Group will review the full, detailed proposals and make final recommendations to the Agenda 2020 Chief Technology Officers (CTO) Working Group for their June 1999 meeting. The CTO Working Group then recommends selected proposals from all six Agenda 2020 technology areas to the DOE for FY 2000 funding.

IV. Targeted Research Areas

The following research areas are listed in order of priority. They correspond to the attached Recycling Research Pathways. Research aimed at reducing energy usage, improving fiber yield, and eliminating stickies contamination is key to significantly expanding the use of recycled fiber. The targeted areas for research, development, and commercialization are:

Develop environmentally benign pressure sensitive adhesives (PSA).

This new, top priority pathway was identified to solicit creative work to specifically support the development and characterization of new pressure sensitive adhesives. Break through work is sought to commercialize removable adhesives to circumvent high processing costs associated with stickies.

Improving separation technologies.

New cleaning system technologies are needed to allow for more specific separation between desirable recycled components and unacceptable contaminants, thereby increasing the amount of recycled fiber useable in marketable products. There is also a need for research in the area of water reuse within recycling mills.

Develop tools and methodologies that establish a valid statistical characterization of raw material streams, and develop innovative sorting and collection techniques, systems, and equipment.

Techniques are needed to allow the establishment of valid statistical characterization of incoming recycled fiber raw material streams and in-process performance. Better in-processing contaminant detection and feedback control systems are needed to improve quality. Particular care in using well-defined nomenclature for recovered paper grades is important. For example, ledger and mixed office are two grades having numerous quality levels. Please be specific in defining the research objective relative to recovered paper grades targeted in the preproposal.

Innovative collection techniques, systems, and equipment are needed to significantly improve the acceptance and economics of moving more recovered materials into products that require better

performance and quality. There has been little advancement in this area, with much recovered fiber still manually sorted.

Understand surface chemistry and fiber to fiber bonding.

Improved product strength and fiber yield can be achieved by a better understanding of fiber and process surface chemistry. Preproposals addressing recycling process and finished product performance issues related to higher recycled fiber content are encouraged. Proposals involving biotechnologies are also of interest.

Develop new technologies for sludge use and disposal.

The emphasis here is to identify methods to significantly reduce the energy and cost of handling sludge. These may include sludge utilization in lieu of landfilling, or research addressing emerging needs with new sludge handling processes.

Attachments: Two-Page Preproposal Submittal Form

**Agenda 2020 - Recycling
Two-Page Preproposal Submittal Form**

RECYCLING RESEARCH AREA:

PROJECT TITLE:

PRIMARY INVESTIGATOR AND COLLABORATORS:

BACKGROUND:

OBJECTIVES:

GENERAL EXPERIMENTAL APPROACH:

BENEFITS TO THE INDUSTRY SHOULD THE RESEARCH YIELD PROMISING RESULTS:

APPROXIMATE SCHEDULE:

APPROXIMATE BUDGET AND SOURCES OF FUNDING FOR YEAR ONE AND OVERALL: